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ACUTA eNews February 1990, Vol. 19, No. 2

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"ACUTA eNews February 1990, Vol. 19, No. 2" (1990). *ACUTA Newsletters*. 302.
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ACUTA NEWS

Association of College & University Telecommunications Administrators, Inc.
THE VOICE OF TELECOMMUNICATIONS IN HIGHER EDUCATION

Ohio State's Innovative Technique for Student Resale: Bar-Coding

*Dino G. Pezzutti, Region 5 Director
Director of UNITS, Ohio State University*

Ohio State University is Ohio's largest four-year public university, with a total student population of 58,994. Since 1985 Ohio State has owned and operated its own telecommunications network, UNITS (University Network Integrated Telecommunications System). Among the communications services UNITS provides is a long distance service for undergraduates living in the university's residence halls. This service was introduced in the fall of 1987. Of the approximately 9,000 students living in the residence halls, about 5,200 are using the service, which offers discounts over other direct dialed long distance rates.

Until the fall of 1989, registering students for long distance service was done manually by UNITS personnel. This involved mailing registration packets to all students living in the university's 25 residence halls at the beginning of the fall term. Packets included a



Durwood Warner, Coordinator of Student Telecommunications at Ohio State University, assists a student with registration. (Photographs courtesy of Ohio State University.)

long distance handbook and a preprinted registration card, which the students were asked to fill out and return to UNITS.

When registration cards were received, UNITS Coordinator of Student Telecommunications Durwood Warner and other staff opened and sorted them by campus or permanent address (for billing purposes).

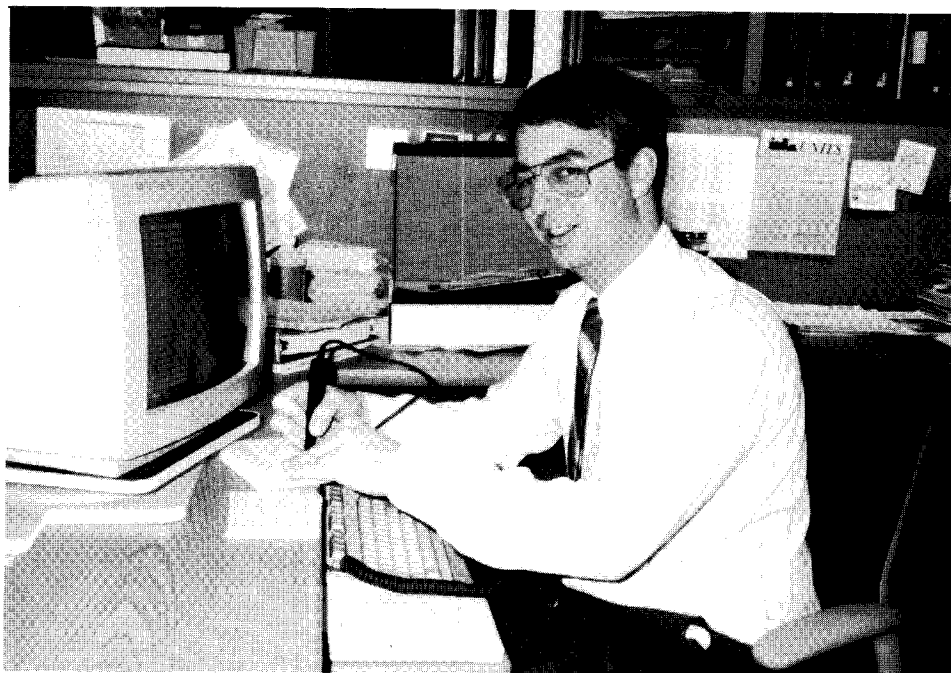
(continued on page 2)

Communications services for students are definitely on the rise among colleges and universities belonging to ACUTA, and the use of bar coding should be of interest to many of them as such services continue to grow. — Dino G. Pezzutti

Ohio State University (from page 1)

Then they manually transcribed information from the cards — names, phone numbers and account numbers — onto audit sheets. Each student's account was called up on a computer terminal, or checked against a computer print-out, and the long distance authorization code for that student's residence hall phone (previously assigned by UNITS technicians) was also transcribed onto the audit form. According to Karen Rody, UNITS Manager of Customer Relations, four personnel — two full-time and two student employees — worked eight-hour shifts for 10 days to accomplish all the manual processing involved in student registration at that time.

Completed audit forms were passed along to technicians Charlie Weimer and Jack Wachtel for input into the university's SL-100 switch. For each registration transaction, they would key in a series of commands to call up the appropriate file, the stu-



Jim Potts, Telecommunications Systems Support Specialist for UNITS, scans a student registration card with the bar-code reader.

dent's seven-digit long distance authorization code and a two-digit code instructing the computer to activate that account. Weimer and Wachtel could input approximately 60 trans-

actions per hour and estimate they spent a total of 45 hours inputting student registrations over the 10-day period.

Although this data is still being measured, UNITS believes significant long distance revenues were lost during fall registration because manual processing created a three- to five-day delay in activating student accounts and students were thus unable to begin making long distance calls.

As with any manual process, there was also a greater possibility of errors being made while student data was recorded onto audit forms or entered into the switch.

In the fall of 1987, when the student long distance program was still being piloted and approximately 1,000 students were using the service, Rody and Warner experimented with another approach to registration by taking it on-site. Looking for ways to reduce processing time, they went to the residence halls at the start of the

Association of College and University Telecommunications Administrators - ACUTA NEWS, Volume 19, No. 2

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MESSAGE FROM THE PRESIDENT

Mike Grunder,
Yale University

The Scottsdale seminar is, as they say, history. For those of you who missed it (or for those who failed to look at a map), the seminar wasn't really in Scottsdale. As it turns out, at least according to the map I got at the car rental place, the La Posada Resort Hotel is in the small town of Paradise Valley. Well-named, too. A gloriously sunny place (most of the time) nestled against a mountain that really does look like a resting camel (was Walt Disney ever here?), the La Posada owns bragging rights to the largest outdoor swimming pool in Arizona. It's divided in half by a two-sided waterfall. Thirsty? Swim into the waterfall and you'll find a cocktail lounge waiting to serve you. No need to swim further if the mood doesn't strike

you. Unless of course you want to unwind in one of the two jacuzzis. Tough duty, but someone had to do it so a report could be written.

Phil Beidelman's presentation on large system selection and implementation was excellent, as noted by the critique sheets submitted afterward. The consistently strong attendance at each session, especially given the wonderful distractions, also bears this out. The exhibits were many and varied and staffed by helpful, friendly professionals. The food and extracurricular events were excellent. If I'm bragging a little, please allow me a bit of overindulgence. When events come off as well as this one, it's difficult not to be proud of our organization and all of the **really** good people who make these things happen.

As nice as that pool was, a lot of time wasn't spent in the waterfall. In addition to the Board of Directors meeting, the Incorporation and Bylaws, Membership, Program and Finance Committees met. Also, the officers met several times throughout the course of the event. "What in the world could all these meetings be needed for?" you might ask. Well, here goes:

Finalization of the Las Vegas seminar program and speaker arrangements, discussion, debate and approval of a draft Orlando conference program, discussion of brochures and printed matter for Orlando, report on Orlando hotel facilities and negotiations, approval of the monograph project, report and update on our membership

drive, membership retention, problems and challenges associated with same, instructor selection for future Understanding Telecommunications workshops, preliminary planning for a second ACUTA workshop educational program, a six-month financial report, update on outstanding financial aspects of past seminars, site selection for seminars and conferences through 1993, detailed report and discussion on incorporation and bylaws activities, member services improvements, a full report and discussion of Lexington Headquarters office activities, newsletter critique and discussion, speakers' fee structures, development of new policies and procedures, and on and on. . .and on. I should finish the list. It would make a great rap tune.

Amazing how much work it takes to keep an outfit like this one moving forward! Next time you run into a board member or one of the officers, or someone from the Lexington staff, or a state coordinator, or a newsletter contributor, give them a pat on the back. They deserve it.

A final note from the garment district. I'm happy to announce another exciting ACUTA initiative that was unveiled in Scottsdale. Through the good efforts of Administrative Director Del Combs, we have created an exclusive line of ACUTA clothing. Jackets, caps, t-shirts and sweatshirts all in great style and color and emblazoned with the ACUTA logo. All first quality and priced only modestly above wholesale for ACUTA members. Come and have a look in Las Vegas this April! 🍷



W

E WELCOME CONTRIBUTIONS...

Please contribute to your monthly newsletter! Send material to Nanci Unger, ACUTA, Suite 1810, Lexington Financial Center, 250 West Main Street, Lexington, KY 40507; fax (606) 257-5673.

Winter Seminar in Scottsdale a Success!

*Mal Reader, ACUTA Program Chair
Manager, Campus Services
University of Calgary (Region 6)*

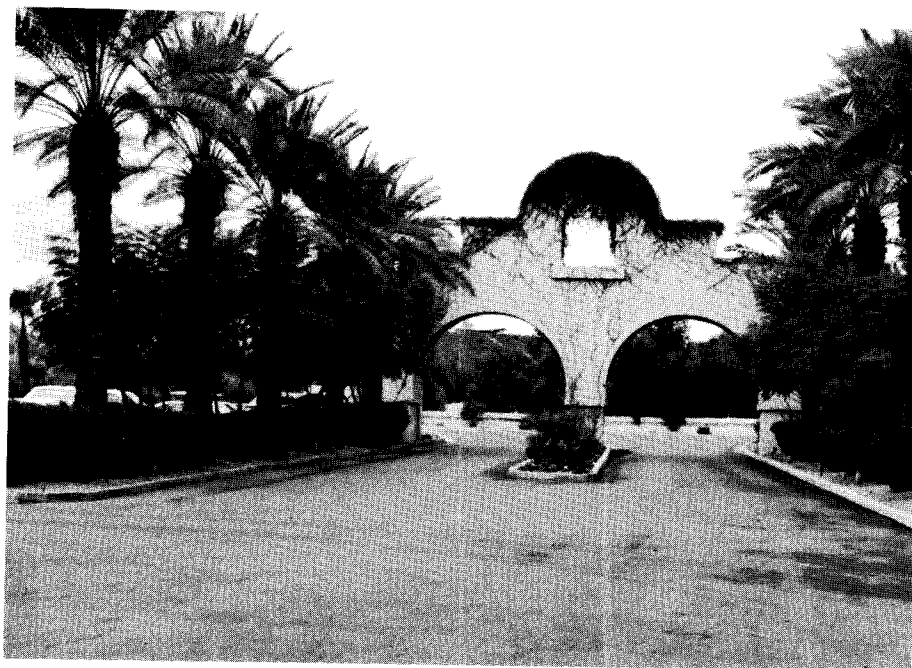
The ACUTA winter seminar on Telecommunications Project Planning, Implementation and Impacts was held at the La Posada Resort in not-so-sunny Scottsdale, Arizona, January 14-17, 1990.

The two-and-one-half-day program was attended by 146 college, university and industry members. The exhibit area featured 18 exhibits on telecommunications products and services, complementing the classroom instruction by Phillip Beidelman, President of Western Telecommunication Consulting in Los Angeles.

ACUTA President Michael Grunder opened the program, welcoming everyone to the first ACUTA event of the new decade. Program Chair Mal Reader then introduced Phillip Beidelman, praising him for the success of his previous ACUTA presentations and noting that he had been the popular first choice to develop and present the tremendously ambitious Scottsdale program.

From the outset Phillip Beidelman involved the audience and the exhibitors in meaningful dialogue, and much of it involved the sharing of real-life experiences. The initial focus was on establishing proper goals and understanding existing systems before attempting to develop functional requirements, conceptual designs and financial feasibility models for replacement systems.

The program progressed through the development of detailed design alternatives and pre-implementation planning, and on the way identified one step as being mandatory to success: the establishment of a project planning team to represent the many diverse interests of a university/college community. These interests include libraries, academic computing, administrative computing, business computing, research groups, student operations, security, teaching resources, finance, purchasing, physical plant, residence halls and medical centers. Also considered to be essential was a thorough



Scottsdale's La Posada Inn showed ACUTA the best of the Southwest -- towering palms, authentic architecture and gorgeous desert landscapes.

understanding of existing LAN and wide-area networks, alarm systems, access control systems, etc.

The level of audience participation increased during discussions on preparing a bid package and was sustained throughout sessions on analyzing vendor responses, making a selection and negotiating a contract. The issues concerning cable and wiring emerged as possibly the most important of all in terms of making the correct decision, and some interesting and frightening facts came to light with regard to new or rumored changes to electrical and fire code regulations in several states.

At the implementation phase, Mr. Beidelman offered a series of caveats concerning the switch hardware and software processes, maintaining proper liaison throughout construction, cable and fiber plant installation, the trunking process, training, pre-cutover testing, cutover and acceptance procedure. Many in the audience could attest to the validity of the sound advice being offered and, as is

usual in these unique ACUTA forums, one or two horror stories surfaced.

Pre-seminar publicity had maintained that the importance and relevance of the Scottsdale topic could not be overemphasized, due to today's ever-increasing dependency on telecom systems by the instructional, research, administrative and marketing arms of colleges and universities. The fine turnout, lively interest and high evaluation sheet scores proved that Telecommunications Project Planning, Implementation and Impacts was a topic which was welcomed, well-presented and well-received.

The next ACUTA seminar will be in Las Vegas, Nevada, April 8-11, 1990, on the topic Voice, Data and Video Networks. Lynn DeNoia will be the speaker, and once again the material will be developed especially for the ACUTA audience. If you have not received the brochure and pre-registration package, please contact the ACUTA office in Lexington, Kentucky, at (606) 252-2882. ☺



THE MIRAGE is the location for ACUTA's spring seminar. Situated in the heart of the Las Vegas strip, this 28-story luxury resort houses a tropical garden with 40-foot palm trees, seven restaurants, and a cabana, pool and tennis facility. For hotel reservations, call 1-800-627-6667 or (702) 791-7444. For seminar information, call ACUTA Headquarters at (606) 252-2882.



ACUTA Secretary Patricia Paul, Region 1 Director Joseph Mantione and Past President Kia Malott enjoy a traditional highlight of every ACUTA event – delicious food!



ACUTA Staff Assistant Lisa McLemore takes a breather after registering 146 attendees and answering questions for four days.



Irene Morris, Delores Pezzutti, Lori Curry, Del Combs and Dino Pezzutti gather in the lobby of the luxurious La Posada.

Scottsdale

SEMINAR SNAPSHOTS



Even seminar speaker Phillip Beldelman took time to enjoy the unique desert scenery.

Scottsdale Photographs by Kellie Preston



The beautiful lagoon pool at the La Posada featured four waterfalls cascading over a grotto.



COMING SOON TO LAS VEGAS — The ACUTA Spring Seminar! The topic is Voice, Data and Video Networks and the program was developed specifically for ACUTA. What does integration of voice, data and video networks *really* mean? Attend the seminar April 8-11 and find out!

Update: Board of Directors Meeting in Scottsdale

Patricia Paul, ACUTA Secretary
Director of Telecommunications
Cornell University (Region 1)

In one of its semi-annual sessions, ACUTA's Board of Directors convened on Saturday, January 13, prior to the Scottsdale seminar. The officers and several committees also met before, during and after the seminar to take advantage of available times surrounding the event. The Board holds monthly conference calls, but much of the business of ACUTA requires face-to-face discussion and brainstorming sessions to accomplish the goals we have set.

Following is a report of some of the major topics of discussion and actions taken on the membership's behalf at the Board meeting.

• **MONOGRAPH PRODUCTION** has begun in earnest. The first monograph — *The Yale Telecommunications Project* — had its debut in Scottsdale. One copy will be mailed to each ACUTA member, and a procedure was approved for submission of additional topics for publication.

• **MEMBERSHIP DRIVE** has been very successful thus far; 31 of the 56 state/province coordinators have contacted each of the non-member institutions in their assigned areas. These calls have resulted in personal conversations with the individual at each institution who would be the potential ACUTA member. That individual's name, address and telephone number have been entered in a non-member data base. As a result, nearly 800 personalized invitations to join

ACUTA have been mailed to prospective members. Our goal is to complete the remaining 25 states/provinces in the next 30 to 60 days.

• **MEMBERSHIP RETENTION** has also been pursued aggressively. Each Region Director has personally contacted each member whose dues are in arrears to ensure it is not due to miscommunication. We have been able to retain at least 40 members who otherwise might have dropped their membership.

• **SITE SELECTION** was completed through summer, 1992, and sites for the 12 months following have been narrowed to a short list which will be finalized in the next few months.

• **MERCHANDISING** of clothing items (hats, jackets, sweatshirts, t-shirts, etc.) with the ACUTA logo began in Scottsdale. A rack of samples was provided so attendees could see and try on items before they placed their orders. Plans are to produce a small catalog of such items for members to order from throughout the year, as well as have a limited selection available at future events.

• **ORLANDO PROGRAM PLANNING** was a hot topic and generated much discussion and myriad suggestions. The adjustments made to the outline should result in an excellent program.

• **UNDERSTANDING TELECOMMUNICATIONS WORKSHOPS** have been selectively cancelled when minimum registration levels have not been met. Several cause-and-effect relationships

were discussed and some modifications will be considered in an attempt to keep these workshops viable.

• **INCORPORATION AND BYLAWS COMMITTEE** reviewed its progress and a newsletter report will be written by Kia Malott, the committee chair, and published for the membership.

• **REGION DIRECTORS' REPORTS** were submitted and discussed. Items covered included the membership drive, periodic "grass roots" contacts with constituency, regional event planning (conferences, seminars, workshops, region meetings, etc.), newsletter contributions, potential monograph topics and authors, and plans and goals for the next six months.

• **ACUTA's FIVE-YEAR PLAN** will be reviewed and updated later in the year to more closely reflect the new directions and initiatives ACUTA has taken.

• **BUDGET PREPARATION** was begun for the 1990-91 fiscal year. All Board members were asked to return their individual budget requests by March 31.

• **ACCOUNTING METHODS** were changed to a true double-entry system to facilitate the financial management of ACUTA and to align it with more traditional systems.

The official minutes of the Scottsdale Board meeting are available to the membership, upon request, from the ACUTA Headquarters office in Lexington. ☺



*Del Combs,
Administrative
Director*

News from ACUTA Headquarters

Scottsdale! Scottsdale! Scottsdale! Location! Location! Location! As it is in the real estate market, it is also in marketing seminar registrations. Critique sheets of this year's winter seminar contained high marks in most all categories, with the highest (9+ out of a possible 10) going to "location" and "timing" — Scottsdale in January.

The winter seminar program, initiated in January, 1986, in Tempe (Phoenix suburb), has rapidly grown to be one of ACUTA's most popular seminars. While we will switch to the east coast next year — Ft. Lauderdale — look for ACUTA to return to the Southwest, maybe Tucson, in 1992.

Scottsdale's program was extremely successful, and since Mike Grunder and Mal Reader, ACUTA President and Program Chair respectively, have elaborated on the program elsewhere in this newsletter, I will not dwell on the subject. However, I do want to mention the Monday night Western dinner and entertainment at Pinnacle Peak, sponsored by Ericsson. One comment was, "The best Monday night ACUTA has ever had." For sure I don't have to refund any steak dinners (as I promised in November's newsletter if you were not satisfied with the evening). A special hit that night was Troy Nabors, the modern-

day Will Rogers, whose tales and rope tricks captivated the attendees as much as the overhanging (the plate) steak dinners. Troy reminisced about his younger days on the circuit with Gene Autry and Roy Rogers, and then brought us up to date about his performance in the recent movie *Raising Arizona*.

Now we must turn our heads to the future, and the future is in "networks." As Lynn DeNoia, our speaker for the Las Vegas spring seminar April 8-11, will tell you, the quality of your future could hinge on the quality of your campus networks. This promises to be one of the most in-depth subjects ever presented, and the program has been custom-tailored to the college and university environment.

Couple this — from 8:00 in the morning to 4:00 in the afternoon — with the glamour of being in Las Vegas in the evening and what more could you ask for? Well, now that you mentioned it, you can have that, too! We will be staying in Las Vegas' newest and the world's largest hotel — The Mirage — with all its splendor, lagoons (indoor and outdoor) and the erupting volcano, but we will only be paying a modest \$85 per night. We have planned the event to allow for our regular program time during the day and ample quality time for the exhibits and lunch during mid-day (noon to 2:30 p.m.), leaving time for personal needs and relaxation after 4:00 each evening. The Sunday night reception has been shortened to 5:00 to 7:00 p.m. instead of the usual 6:00 to 9:00 p.m. to allow a little more free time on Sunday night.

I would like to take this opportunity to acknowledge the laudatory comments received after the last couple of ACUTA events, about the support and courtesy given by the Lexington staff. Lisa, Kellie and Nanci are responsible for collecting and creating the information and material to make your planning and attendance at the events as pleasant and enjoyable as possible. I agree that they are doing a fabulous job. Please continue to provide feedback to us, including the constructive criticism to help us improve in any way possible. ☺

ACUTA WELCOMES NEW MEMBERS

Welcome to the following new ACUTA members, who joined the association between December 8, 1989, and January 10, 1990.

REGION 1

(Region 1 Director: Joseph Mantione, SUNY at Buffalo)

Lita Adams, Springfield College

Jack Sinchak, ROLM

Mark Waite, RING Medical

REGION 2

(Region 2 Director: Don Hoover, Villanova University)

Dan Anderson, ROLM

Shirley Hatch, United States Naval Academy

Phil Rush, Bucks County Community College

REGION 3

(Region 3 Director: James Dronsfield, Duke University)

Karen Ruble, Midway College

REGION 7

(Region 7 Director: Howard Lowell, Colorado State University)

Larry Steinmetz, Vodavi Communications Systems

REGION 8

(Region 8 Director: Donna Powell, California State University-Sacramento)

Marilou Hemenway, Stanford University

CABLE AND WIRE:

The Ties That Bind, Gag and Choke

Patricia M. Cuocco
The California State University (Region 8)

Shortly after I came to the California State University (CSU) in 1985, my boss presented me with a seemingly reasonable challenge — he wanted to resolve the issue of telecommunications wiring for new buildings and major renovations in a post-divestiture environment. He also wanted to set standards for campus wiring. Even if he had mentioned this in the job interview, I wouldn't have known enough to run screaming from the room, never to return. Five years later I'm older, grayer and only a little wiser. However, I have learned that the entire issue of cabling and wiring a campus is fraught with a host of other issues, which include but are not limited to the following:

1) Setting standards for a campus wire plan. I don't know about you, but I'm a boring sort who likes consistency. I find it aesthetically pleasing if one building is wired much the same as the next and people moving from building to building can expect the same level of service regardless of location. This requires that all of the architects and engineers who may pass through your campus play by the same rules—a novel concept in the "building business."

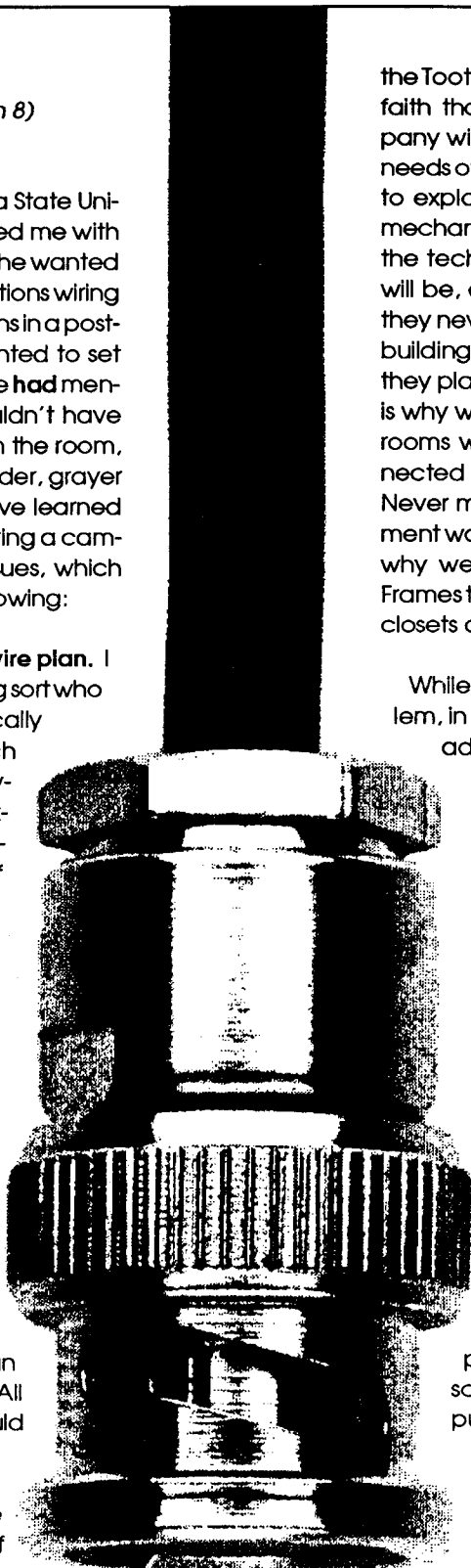
2) Having a clear understanding of the funding mechanism for the telecommunications needs of new buildings and major renovations. It is axiomatic that all facilities and construction people believe that the cost of providing facilities, instruments and data terminals will come from the existing budget of the telecommunications department. They believe, therefore, that there is no need to plan ahead for budget augmentation. All telecommunications managers should now stop crying.

3) Changing the perceptions of the people who build the buildings. Lots of these folks still believe in Santa Claus,

the Tooth Fairy and the old Bell System. They have faith that the local telephone operating company will come and take care of the telephone needs of the building. They therefore see no need to explain to the architect, electrical engineer, mechanical engineer and facilities engineer what the technological requirements of that building will be, and for good reason. They don't know; they never asked the people who will inhabit the buildings what those people plan to do and how they plan to do it, technologically speaking. This is why we end up with large and beautiful classrooms which have no possible way to be connected to campus data and video networks. Never mind that the Computer Science Department wants to teach classes in that room. It's also why we end up with Intermediate Distribution Frames the size of shoe boxes and why equipment closets are co-located with janitorial supplies.

While we haven't completely solved the problem, in the CSU we've at least made progress in addressing these issues. I also have every hope that before I retire, in about 2010, the entire cable/wire issue will be put to rest. (That's because we'll all be using a combination of switched cellular technology and some yet to be discovered magic which will completely negate the need for cable and wire of any kind.) In the meantime, here's what we've done:

In 1986 we hired KPMG Peat Marwick/Compass Consulting out of Bellevue, Washington, to look at the CSU campuses and recommend a cable and wire standard. These recommendations were published in July 1987 under the title *Systemwide Cable Plan*. In addition to giving campuses specifications on a variety of telecommunications transmission products and offering pros and cons of various distribution schemes, Peat Marwick described a campus model that could be given to an architect or engineer. This details the cable plan, two sets of four twisted pairs of wire, 22 AWG, double jacketed on RJ45Xs, from the Intermediate Distribution Frame of the building to the station location.



Cable and Wire (from page 8)

Four pairs are intended for voice communications and four pairs are for data communications. The model also provides algorithms for sizing entrance and riser cable, sets space and electrical standards for satellite working closets and addresses spare capacity issues.

How to budget for the cable and wire requirements of new buildings has been the most difficult aspect of the entire process. The Physical Planning people are loathe to include the costs in the capital outlay budget since it inflates the cost of the building. In addition, because the CSU is state-run, we face certain bureaucratic idiosyncrasies that a private institution might not have to deal with. When the construction of a building is funded, a general contractor is hired through the competitive bidding process. This person is responsible for the expenditure of all of the construction funds. It makes sense to include the cost of cable troughs and trays and horizontal and vertical conduits in this fund, but it certainly does not make sense to have a general contractor pull cable and wire, and arrange for telephone instruments and PBX electronics, particularly when the majority of campuses have long-term contractual arrangements with one PBX vendor or another. Yet our goal is to have a new building completely wired for voice and data communications, and to have operational telephone instruments at every work location prior to building occupation.

Our solution was to establish an average price per workstation for the cable and wire as detailed in KPMG Peat Marwick's recommended campus model, and to include the cost of a telephone instrument and the appropriate electronics in the PBX. The assumption is that 30 percent of the instruments will be multi-line, digital-type sets; 70 percent will be single-line (analog or digital). This average

price per workstation is then included in the after-construction building equipment list. It is still part of the capital outlay budget, but it is not reflected in the construction costs.

There are still severe shortcomings in this process. For one thing, while the wire for data communications is addressed, there are no cost allowances for data communications equipment (either terminals, workstations or LAN/WAN connections) built into the capital outlay project. Also, while intra-building connectivity is considered in the project, inter-building connectivity is not. The Physical Planning and Development folks at CSU advised us that when constructing a new building they plan for sewer, electricity, water, utilities, etc. out five feet from the building. It has occurred to me to ask what happens when the building is 100 feet away from the nearest structure, but so far no one has been able to give me a satisfactory answer.

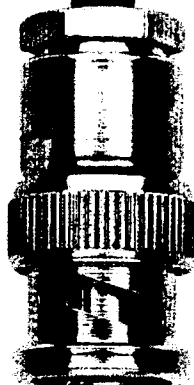
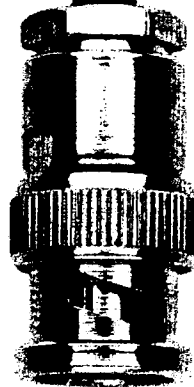
I have another peculiar prejudice about these sorts of things. I think it is rational for the people in the new building to be connected to the campus computing center and PBX. (I don't even want to think about water, sewers and electricity.) We are currently negotiating the next iteration of the *Systemwide Cable Plan* with KPMG Peat Marwick. It is anticipated that the issues of data communications and inter-building connectivity will be addressed. In addition, the impact of the technological changes of the last several years will be discussed and more work on distribution schemes will be done.

A great many difficulties can be avoided if communication among all of the interested

parties takes place very early in the project. Toward this end the Office of Computing and Communications Resources (the CSU headquarters staff organization for which I work) has taken the lead in attempting to foster this communication on campus. We have invited representatives of the Physical Planning and Development Department to address meetings of the campus telecommunications managers to explain their processes and procedures. We have invited ourselves to meetings of campus building and construction folks to explain our issues and concerns. Great strides have been made toward having the yearly planning processes for capital outlay and telecommunications reflect common concerns. We have advocated pure, unadulterated pushiness — we've told any campus telecommunications manager who will listen to insinuate him/herself into the facilities planning process on campus. It is our sincere hope that every telecommunications manager will know about a new building or a major renovation a minute and a half after it is even thought about on campus — not the day before it's due to be inhabited.

Am I fooling myself into thinking that this entire issue of telecommunications requirements in new buildings and major renovations is solved once and for all in the CSU? Of course not. Telecommunications people are nothing if not realists. But through standards, budget procedures and communications, I at least hope that the days when I get a frantic call from a distraught campus telecommunications manager, telling me that the contractor is plastering the walls as we speak and the conduit, cable and wires are non-existent, are in my past. ♪

Editor's Note: Patricia M. Cuocco is Manager of Telecommunications Analysis for the Office of Computing and Communications Resources at The California State University.



TELEPHONE CALLING CARDS SAVE TRAVELERS TIME AND MONEY

Carnegie-Mellon University in Pittsburgh issues telephone calling cards which faculty and staff can order through their departments. Calls placed on the CMU cards are billed directly to the departments through the accounting statement. This article illustrates the kind of information CMU distributes to convey the benefits of these cards. Personnel are encouraged to contact their departmental telephone administrator for information on the department's policy of issuing and paying for telephone calls.

Mary L. Pretz-Lawson
Assistant Director of Telecommunications
Carnegie Mellon University (Region 2)

Have you received an outrageous telephone bill for calls you made while on the road? You may have called back to your office from your hotel room. Or you made a quick call from an airport payphone. Or maybe you had the operator bill the call to your office. Travelers can get hit with telephone charges of up to 60 percent more than regular rates if they are not careful.

Using telephone calling cards can decrease the time it takes to complete your calls and save you money by avoiding high surcharges.

Telephone calling cards look like credit cards with your name and a 14-digit identification number. All major long distance carriers issue telephone calling cards. When you use a calling card, you are directly billed at your home or office for long distance calls. You can place calls on your card from any phone, including payphones, hotels, airports, private businesses or residences.

Why do you need a card?

• **YOU SAVE MONEY** - When AT&T broke up, the industry of alternative operator services (AOS) was created. AOS's are independent companies that provide operator-assisted long distance calls by imposing high surcharges through an AOS. An AOS will charge you for the actual cost of the long distance call PLUS a surcharge of as much as \$3 or more.

There are also large surcharges for having an operator place your call. Any operator-assisted call, like a collect call or third party billing, carries at least a \$1.75 surcharge on top of the regular long distance charge. By contrast, the charge by major carriers for calling card calls is \$.80.

• **YOU SAVE TIME** - When you have to give a hotel operator your room number, or have an operator place a collect call, you can add several minutes to your call. If you dial directly with a calling card, the call is quickly completed. Also, to place many calls in a row using a calling card, you just hit the "#". You then can dial your next call without re-entering your calling card number.

How do you use a card?

You place calls differently depending on which carrier's calling card you are using. With AT&T, you dial "0" plus the number you are calling. Following a "bong" sound, you dial your identification number. You originate calls with an MCI card by dialing a 950-access or 800-access number, followed by the number you are calling and your ID code. With Sprint, you also use an 800-access number, then the telephone number and ID code.

However, even when using a calling card you still need to identify the operator service for that telephone. You could be using an AT&T calling card, but the operator service might not be AT&T. Then your call would not be carried by AT&T and you could not be charged higher than AT&T rates. Ask the operator how to access the carrier that issued you the calling card.

When you are in a hotel room, try to find out who provides operator services, what the charges are, and what you must do to use your carrier's calling card. If you can't use your own calling card, consider using the hotel's direct long distance calling (usually *8+*). Operator assisted calls like collect and reverse charges should only be used for emergencies.

Another option in hotels is using the lobby payphones. Payphones are often the only choice in airports. Check for a sign showing whether the local telephone company provides the payphones (like Bell of Pennsylvania). Most payphones will also show the long distance operator service for that phone. If you need to use an AOS-operated phone, ask for the AOS company number. Call it and ask about the rates before you place your call.

How can you get a card?

You can call any long distance carrier to order a card. Calling cards can be issued to you personally and billed to your residence, or you can get a calling card through your office and receive bills there.

The Carnegie Mellon Telephone Office issues calling cards when ordered through departmental telephone administrators. The calls placed on CMU cards are billed directly to each department through the accounting statement.

Use telephone credit cards wisely when you travel — you will save money by avoiding high surcharges, and you will save time by completing calls quickly. ☺



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as your telephone or fax number changed since the ACUTA Membership Roster was published? Send the new information to ACUTA Headquarters in Lexington and we'll publish it on the Bulletin Board.

UNDERSTANDING TELECOMMUNICATIONS REGIONAL WORKSHOPS

• REGION 8 WORKSHOP • IN SAN DIEGO, CA

MARCH 12-14, 1990

HOTEL: Best Western - Hacienda
Hotel, Old Town

HOST: University of San Diego

• REGION 2 WORKSHOP • in MILLERSVILLE, PA

MARCH 13-15, 1990

CONCURRENT REGION 2 MEETING IN MILLERSVILLE, PA

MARCH 14-15, 1990

HOTEL: Quality Inn

HOST: Millersville University

• REGION 5 WORKSHOP • IN KALAMAZOO, MI

APRIL 30 - MAY 2, 1990

HOTEL: Holiday Inn

HOST: Western Michigan
University

• REGION 6 WORKSHOP • IN GUELPH, ONTARIO, CANADA

MAY 14-16, 1990

HOTEL: College Inn

HOST: University of Guelph

• REGION 3 WORKSHOP • IN GREENSBORO, NC

JUNE 4-6, 1990

HOTEL: Holiday Inn - Four
Seasons Town Center

HOSTS: Duke University
and Wake Forest University

CHANGES! CHANGES!

FOR YOUR ACUTA MEMBERSHIP ROSTER

- Change the area code for Patrick Duffy, University of Iowa Hospitals and Clinics, to (319).
- Change the telephone number for Jack Curry, Thomas Jefferson University in Philadelphia, to (215) 955-8471, and fax to (215) 955-5044.

Please make these changes to all appropriate sections of your roster.

ACUTA BULLETIN BOARD

SEMINARS AND CONFERENCES

• SPRING SEMINAR • IN LAS VEGAS, NV

APRIL 8-11, 1990

HOTEL: The Mirage

TOPIC: Voice, Data
and Video Networks

SPEAKER: Lynn DeNoia

• SUMMER CONFERENCE • IN ORLANDO, FL

JULY 15-19, 1990

HOTEL: Buena Vista Palace

TOPICS: Management,

Regulatory Issues,

Professional Growth,

Voice, Data and Video

SPEAKERS: Variety of

professionals, including

consultants, managers,

lawyers, ACUTA members

• FALL SEMINAR • IN PORTLAND, OR

OCTOBER 14-17, 1990

HOTEL: Red Lion Inn

Lloyd Center

TOPIC: Case Studies on

Telecommunications

Management

Information Systems

SPEAKER: To be announced

POSITION ANNOUNCEMENTS

COORDINATOR OF TELECOMMUNICATIONS

CENTRAL MISSOURI
STATE UNIVERSITY

Qualifications: B.S. or B.A. degree or equivalent and a minimum of three years experience in telecommunications and data processing; relevant management experience; familiarity with higher education environment is desired.

Send applications to:
Dean Pal V. Rao, CDP,
Search Committee Chair
Planning, Government
and Information Services
Humphreys 200

Central Missouri State University
Warrensburg, MO 64093

*Formal review of applications
began January 26, 1990; search will
remain open until position is filled.*

FOR DETAILS, CALL (816) 429-4580.

DIRECTOR OF TELECOMMUNICATIONS

STATE UNIVERSITY OF NEW YORK
COLLEGE AT OSWEGO
OSWEGO, NY 13126

Qualifications: Bachelors degree and extensive technical knowledge (minimum of three years) in telecommunications and three or more years of supervisory experience.

*Deadline for receipt of
applications is February 28, 1990.*

FOR DETAILS, CALL MICHAEL PISA,
DIRECTOR OF COMPUTER CENTER
(315) 341-3589.



IMPORTANT NUMBERS FOR ACUTA HEADQUARTERS
Telephone: (606) 252-2882 • Fax: (606) 252-5673
 (CALL FOR INFORMATION ON ACUTA ACTIVITIES!)

Ohio State University (from page 2)

fall term to sign students up for the long distance service in person. Since UNITS staff had to be present during regular residence hall check-in hours of 8 a.m. to 11 p.m., this meant two shifts of personnel had to be on duty at eight different residence hall locations. Rodysaid they soon realized that being present at the halls during check-in was not an economical approach given the resources required.

Dave Naille, UNITS Manager of Information Services, suggested using bar-coding for the registration process. Although he had never heard of bar-coding technology being used in such a way, Naille realized it was a natural for such an application. He purchased a bar-code reader from Hewlett-Packard (HP) because of its price (\$256) and its compatibility with UNITS' HP Vectra computers. Naille estimated the whole system went into place in about four weeks.

At University Systems, Ohio State's ADP facility, programmer-analyst Molly Frederick wrote a program to make the Xerox 8700 printer at University Systems print the bar-codes onto the thick paper stock used for student registration cards. Next, programmer-analysts Steve Jennings and Choeng Chung did the analysis for a program to be used on University Systems' Amdahl mainframe, so it would accept the file of student registration information gathered from the bar-code reader and update the billing records for the student long distance service. Frederick wrote this program as well.

After the bar-codes were printed onto registration cards, UNITS Telecommunications Systems Support Specialist Jim Potts worked with ADP staff to test the bar-code reader's performance in reading the data and transmitting it to the files. Slight adjustments

were made in the size and placement of the bar-code to facilitate scanning.

Finally, UNITS Senior Computer Specialist Barry Hayes wrote a command file in PROCOMM, a PC communications package, prompting it to dial into the switch, upload the student authorization codes and process them through an SL-100 command file.

The new system went into place in September, 1989. Registration packets were mailed out as usual to residence hall students. The registration

the switch. Weimer simply turned on the unit, hit a few command keys and observed as the file ran. Uploading took from 20 minutes to an hour each day, depending upon the number of entries. Weimer estimates he spent about eight hours inputting student registration data during fall registration. As a result of this time savings, UNITS was able to activate students' accounts on the same day their registration cards were received. Though not yet calculated, an increase in long distance revenues is expected from

An increase in long distance revenues is expected from UNITS' being able to provide students with long distance service more quickly.

card in each packet, however, carried a bar-code including the student's social security number and long distance authorization code. Students returned registration cards by campus mail to UNITS, where Durwood Warner and staff opened and sorted them before passing them along for scanning.

Jim Potts then scanned all registration cards with the bar-code reader. He could scan a day's worth of registration cards (about 750) in under an hour and estimates he spent about 10 hours using the bar-code reader during the entire 10-day period.

Scanning the cards created a file, visible on the PC screen, of the students' social security numbers and authorization codes. One copy of this file was transmitted to the Amdahl mainframe at the ADP facility for updating the billing system, and another copy was given on diskette to technician Weimer for uploading into

UNITS' being able to provide students with long distance service more quickly.

Given the number of educational institutions converting to management of their own communications networks, business applications like bar-coding are likely to enter more and more onto the educational scene. Communications services for students are definitely on the rise among colleges and universities belonging to ACUTA, and the use of bar-coding should be of interest to many of them as such services continue to grow. 📞

Editor's Note: Dino G. Pezzutti is Director of UNITS (University Network Integrated Telecommunications System) at The Ohio State University in Columbus, Ohio. He has been involved in the telecommunications industry for more than 14 years and has been active in ACUTA since 1983. He has served as ACUTA's Region 5 Director since 1985.